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May 30, 2005

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Application No. : 2,370,901
Owner : HITACHI, LTD.; BABCOCK-HITACHI KABUSHIKI KAISHA
Title : HYDROGEN PRODUCING APPARATUS AND POWER GENERATING SYSTEM USING IT
Classification : H01M-8/06
Your File No. : 47524
Examiner : Laurent de Camprieu

YOU ARE HEREBY NOTIFIED OF :

- A REQUISITION BY THE EXAMINER IN ACCORDANCE WITH SUBSECTION 30(2) OF THE *PATENT RULES*;
- A REQUISITION BY THE EXAMINER IN ACCORDANCE WITH SECTION 29 OF THE *PATENT RULES*.

IN ORDER TO AVOID MULTIPLE ABANDONMENTS UNDER PARAGRAPH 73(1)(A) OF THE PATENT ACT, A WRITTEN REPLY TO EACH REQUISITION MUST BE RECEIVED WITHIN 6 MONTHS AFTER THE ABOVE DATE.

This application has been examined as originally filed.

The number of claims in this application is 19.

The search of the prior art has revealed the following:

References Applied:

European Patent Office Patent Applications

①	1 014 464	June 28, 2000	Yamaoka et al.
②	1 093 175	April 18, 2001	Fronk
③	1 056 148	November 29, 2000	Yamamoto et al.

Yamaoka et al. disclose a solid polymer electrolyte fuel cell and a flow and temperature control device for a hydrogen producing device. Hydrogen is reformed by both steam reforming (page 4, line 29-34) and partial oxidation (page 4, line 41-47). The temperature of the reformer can be controlled by balancing the heat generated from both reforming reactions (page 4, line 39-40). As seen from fig. 6, page 14, set values for hydrogen production volumes can be selected with

variable raw fuel input flow rates. The "at least one type of material" can be an aqueous solution of methanol (page 4, line 18).

Fronk discloses a method and apparatus for controllably supplying oxygen to promote the oxidation of carbon monoxide while avoiding excessive oxidation of hydrogen in a fuel cell reformat stream. The stream may be composed of a hydrocarbon such as methane (CH_4).

Yamamoto et al. disclose a solid polymer electrolyte fuel cell cogeneration system comprising a fuel gas generating system, a cooling water loop through which heat from the fuel cell or fuel gas generating unit can be evacuated, recovered or stored in a heat exchanger.

The examiner has identified the following defects in the application:

Claims 1, 9-11, 16 and 18 do not comply with paragraph 28.2(1)(b) of the *Patent Act*. Yamaoka et al. disclosed the claimed subject matter before the claim date.

Claim 8 does not comply with section 28.3 of the *Patent Act*. The subject matter of this claim would have been obvious on the claim date to a person skilled in the art or science to which it pertains having regard to Yamaoka et al. and Fronk. It would be obvious to use water and a hydrocarbon such as methane (CH_4) as the "at least one type of material".

Claims 17 and 19 do not comply with section 28.3 of the *Patent Act*. The subject matter of these claims would have been obvious on the claim date to a person skilled in the art or science to which they pertain having regard to Yamaoka et al. and Yamamoto et al. It would have been obvious to a person skilled in the relevant art in light of Yamaoka et al. and the common general knowledge as it existed in the art before the claim date of claim 17 to use a hydrogen storage device after an outlet of the hydrogen producing device. Furthermore, it would have been obvious to use a coolant loop and hot water heating device as disclosed by Yamamoto et al. with the fuel cell of Yamaoka et al.

Claim 5 is indefinite and does not comply with subsection 27(4) of the *Patent Act*. It is unclear what are the parameters for setting the "set values".

Claim 6 is indefinite and does not comply with subsection 27(4) of the *Patent Act*. The term "the supply system" (claim 6, line 9) has more than one antecedent in claim 6 (the supply system for the air, oxygen, oxidizing agent and the at least one type of material).

Claim 12 is indefinite and does not comply with subsection 27(4) of the *Patent Act*. The term "the flow setting means" (claim 12, lines 2-3) has no antecedent in claims 1 and 5.

The drawings must be amended to comply with section 82 of the *Patent Rules*. The same reference character must be used for the same part in different figures, and must not be used to designate different parts. In figure 9, reference character 5 designates two different parts.

Applicant is requisitioned to amend claim 3 in order to correct a typographical defect where "on/of" should read "on/off".

Under subsection 29(1) of the *Patent Rules*, the applicant is requisitioned to provide particulars of conflict, opposition, re-examination or similar proceedings, in which the United States Patent and Trademark Office, and European Patent Office applications describing the same invention on behalf of the applicant or on behalf of any other person claiming under an inventor named in the present application, may have been involved. In accordance with subsection 29(3) of the *Patent Rules*, if there are no such proceedings, this must be stated.

In view of the foregoing defects, the applicant is requisitioned, under subsection 30(2) of the *Patent Rules*, to amend the application in order to comply with the *Patent Act* and the *Patent Rules* or to provide arguments as to why the application does comply.

Under section 34 of the *Patent Rules*, any amendment made in response to this requisition must be accompanied by a statement explaining the nature thereof, and how it corrects each of the above identified defects.

Laurent de Camprieux
Patent Examiner
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